

STATE OF ARIZONA
AQUIFER PROTECTION PERMIT NO. P- 105971
PLACE ID 3507, SITE CODE 509151-00 LTF 46230

1.0 AUTHORIZATION

In compliance with the provisions of Arizona Revised Statutes (A.R.S.) Title 49, Chapter 2, Articles 1, 2 and 3, Arizona Administrative Code (A.A.C.) Title 18, Chapter 9, Articles 1 and 2, A. A. C. Title 18, Chapter 11, Article 4 and amendments thereto, and the conditions set forth in this permit, *Arizona Public Service Company* as co-owner and operating agent is hereby authorized to operate the *Palo Verde Nuclear Generating Station Evaporation Pond 3* located in Tonopah, Arizona, in Maricopa County over groundwater of the Lower Hassayampa groundwater basin, in all or portions of Township 1 North, Range 6 West, Sections 9a, 10bbb, 10bbc, 10bcb and 10bcc of the Gila and Salt River Base Line and Meridian.

Palo Verde Nuclear Generating Station Joint Owners:

- 1) Salt River Project Agricultural Improvement and Power District (SRP)
- 2) Southern California Edison Company (Edison)
- 3) El Paso Electric Company (El Paso)
- 4) Public Service Company of New Mexico (PNM)
- 5) Department of Water & Power of the City of Los Angeles (LADWP)
- 6) Southern California Public Power Authority Association (SCPPA)

This permit becomes effective on the date of the Water Quality Division Director's signature and shall be valid for the life of the facility (operational, closure, and post-closure periods), unless suspended or revoked pursuant to A.A.C. R18-9-A213. The permittee shall construct, operate and maintain the permitted facilities:

1. Following all the conditions of this permit including the design and operational information documented or referenced below, and
2. Such that Aquifer Water Quality Standards (AWQS) are not violated at the applicable point(s) of compliance (POC) set forth below, or if an AWQS for a pollutant has been exceeded in an aquifer at the time of permit issuance, that no additional degradation of the aquifer relative to that pollutant, and as determined at the applicable POC, occurs as a result of the discharge from the facility.

1.1 PERMITTEE INFORMATION

Facility Name: Palo Verde Nuclear Generating Station Evaporation Pond 3 (Cells A and B)

Permittee:	Mailing Address:	Facility's Street Address:
APS-Palo Verde Nuclear Generating Station	P.O. Box 52034, M.S. 7626 Phoenix, Arizona 85072-2034	5801 South Wintersburg Road Tonopah, Arizona 85354-7529

Facility Contact: Environmental Department Leader 623-393-6567

Emergency Telephone Number: Water Reclamation Shift Supervisor (623) 393-3002

Latitude: 33° 21' 29" North **Longitude:** 112° 52' 08" West

Legal Description: T1N, R6W Sections 9A, 10BBB, 10BBC, 10BCB and 10BCC includes Book Map
Parcel Numbers: 501-47-045, 401-43-038A, and 401-43-009E

1.2 AUTHORIZING SIGNATURE

Joan Card, Director
Water Quality Division
Arizona Department of Environmental Quality
Signed this ____ day of _____, 2008

DRAFT FOR REVIEW AND DISCUSSION PURPOSES ONLY**2.0 SPECIFIC CONDITIONS [A.R.S. §§ 49-203(4), 49-241(A)]****2.1 Facility / Site Description [A.R.S. § 49-243(K)(8)]**

The site includes the following permitted discharging facilities:

Facility	Latitude	Longitude
Evaporation Pond 3 (Cells 3A and 3B)	33° 21' 29" N	112° 52' 08" W

2.2 Annual Registration Fee [A.R.S. § 49-242]

The Annual Registration Fee for this permit is established by A.R.S. § 49-242 and is payable to ADEQ each year. The design flow is more than 2.59 million gallons per day.

2.3 Financial Capability [A.R.S. § 49-243(N) and A.A.C. R18-9-A203]

The permittee has demonstrated financial capability under A.R.S. § 49-243(N) and A.A.C. R18-9-A203. The permittee shall maintain financial capability throughout the life of the facility. The estimated closure cost is \$8,796,400.00. The financial capability was demonstrated through R18-9-A203(C)(1)(b) and (c).

3.0 Evaporation Pond 3**3.1 Best Available Demonstrated Control Technology**

[A.R.S. § 49-243(B) and A.A.C. R18-9-A202(A)(5)]

PVNGS relies on engineering and operational controls (including water conservation and reuse) and engineering controls described in this Section to demonstrate Best Available Demonstrated Control Technology (BADCT). Wastewater reclamation and water conservation are a significant contribution to BADCT for this Facility. Reclaimed water from local WWTPs is conveyed to the facility through the Hassayampa pipeline, is treated and then utilized for cooling water make-up water. Certain wastewaters generated at the site are also cycled back and treated for re-use as cooling water. Further, because the site is located within the Phoenix Active Management Area, cooling water is cycled an estimated 20 times to meet Arizona Department of Water Resources (ADWR) water conservation requirements. Only after cycling the water for maximum utilization is the spent cooling tower wastewater discharged to the evaporation surface impoundments including Evaporation Pond 3. BADCT for Evaporation Pond 3 consists of a triple lined design. A 60 mil HDPE liner shall be installed above a Leak collection and Removal System (LCRS), a secondary 60-mil HDPE liner below the LCRS, installed above a geosynthetic clay liner (GCL) over the prepared sub-base

The impoundment shall be constructed in accordance with ADEQ-approved plans, received on December 3, 2007, containing the following design elements:

3.1.1 Subgrade Preparation and Earthwork

The sub-grade shall be prepared and compacted in accordance with the Project Construction Specifications, Section 02200, Earthwork, which shall include trimming, shaping and removal of any existing materials found to be unacceptable for sub-grade. After trimming, shaping, and removal of any materials determined to be unsuitable, the sub-grade below the limits of the embankment structural fill, shall be scarified to an approximate depth of 10 to 12 inches (or as needed) to achieve a 6-inch compacted sub-grade, and shall be compacted to a maximum of 95% standard Proctor dry density (ASTM Method D698). The internal side slopes of the ponds shall be 4 Horizontal (H): 1 Vertical (V).

3.1.2 Underdrain System Design

This section is not applicable.

DRAFT FOR REVIEW AND DISCUSSION PURPOSES ONLY**3.1.3 Liner System Design**

A triple lined system shall be installed consisting of a 60-mil High Density Polyethylene (HDPE) liner installed above a Leak Collection and Removal System (LCRS), a second 60-mil HDPE liner installed below the LCRS, and a Geosynthetic Clay Liner (GCL) below the second 60-mil liner.

The HDPE liners shall be installed and welds and seams shall be tested as indicated in the approved QA/QC Plan and in accordance with the testing requirements for liner warranty. The primary liner shall be conductive and shall be tested by electrical detection at the time of installation to verify that the liner is free of holes and pinholes in accordance with the approved QA/QC Plan. The liner system shall be secured with an engineered trench.

The HDPE liners shall be separated by a geonet drainage layer installed at a 3% slope and designed to allow any leakage that may pass through anomalies or leaks in the top liner, to flow to a drain pipe which will convey the leakage to leak collection sumps. The collection pipes shall have a minimum slope of 1 percent. The drainage layer shall achieve a hydraulic conductivity of 1×10^{-2} cm/sec or greater to promote drainage to the collection sumps.

The lower HDPE liner shall be underlain by a GCL that shall be prepared and installed in accordance with the Project Construction Specifications Section 02779, and shall have a permeability of 5×10^{-9} cm/sec. The active ingredient of the GCL shall be natural sodium bentonite which is encapsulated between two needle-punched geotextiles. The GCL shall be installed in a manner to ensure it is not damaged, and if any part of the GCL becomes hydrated prior to the placement of the overlying geomembrane the hydrated section of the GCL shall be removed and replaced prior to continuing with construction.

3.1.4 Storage Capacity and Freeboard

The holding capacity of the 180-acre impoundment shall not exceed 2132 million gallons, which excludes freeboard. The maximum depth of the impoundment (measured to the top of the primary liner) shall be approximately 71 feet.

3.1.5 Storm-water Containment and Diversion

The calculated freeboard and holding capacity of the impoundment includes containment of the 100-year, 24-hour storm event. Run-on from the 100-year 24-hour storm-event shall be diverted around the impoundment.

3.1.6 Wastewater and Liner System Compatibility

All solutions discharged to the lined impoundment shall be compatible with the synthetic liner.

3.1.7 Liner Leakage Monitoring System

An electronic or mechanical water level indicator shall be used to determine the presence of any fluid head in the base of the sumps for each cell. The east and west collection sumps for 3A each have a total volume capacity of 2,256 gallons below the invert of the collection pipes. The east and west collection sumps of 3B each have a total volume capacity of 2,256 gallons below the invert of the collection pipes.

The permittee shall have available portable submersible pump(s) with a generator, or dedicated pump(s) with sufficient capacity to pump ahead of the daily liner leakage inflow to the LCRS sump. Pumps shall be properly sized and operated to ensure that the wastewater surface within the collection sump does not exceed the invert elevation of the incoming collection pipe.

Pumps placed in the collection sumps shall be used to remove fluid from the sumps and ensure that pumpage rates are greater than liner leakage rates, according to Table 5.2-2 and Table 5.2-3. Totalizing flow meters shall be used to record daily flow rates in sumps during pumpage. The leakage

DRAFT FOR REVIEW AND DISCUSSION PURPOSES ONLY

collection sumps shall be designed to collect leakage from the space between the double HDPE liner system and pumping systems sized and operated to minimize hydraulic head on the secondary liners and to prevent sump overflow.

3.1.8 Specific Characteristics

Site specific characteristics were not used as part of the BADCT demonstration for this impoundment.

3.1.9 QA/QC and Final Construction Reports and Pre-operational Inspections

Within 60 calendar days of completing construction of the impoundment, and prior to the initial discharge of wastewater into the evaporation impoundment, the permittee/operator shall inspect all wastewater management systems to verify that all components function as designed; and to ensure that the installation of the liner and the LCRS meets the manufacturer's quality assurance and quality control requirements (QA/QC) and the liner system is completed in accordance with ADEQ approved plans.

A QA/QC Report and Construction Certification, including as-built plans that are sealed by an Arizona registered Professional Engineer, shall be submitted to ADEQ no later than 90 calendar days after completion of the impoundment construction in accordance with the Section 4.0, Compliance Schedule. The report shall include the results of compaction testing and shall verify that the impoundment and sub-grade were constructed in accordance with ADEQ-approved plans and this permit and that seams and welds have passed required testing. The report shall document liner installation QA/QC procedures (including seam/weld testing and electrical testing of the primary conductive liner) and final as-built plans and inspection results for all pollution control components relating to the wastewater discharge and treatment processes. The final construction report shall be certified by the on-site construction QA engineer and shall be sealed by an Arizona registered professional engineer.

3.2 Operational Requirements and Methods

Leakage through the primary liner in the impoundment shall be conveyed through a drainage geonet layer to the collection sump(s) for extraction. Fluid will be removed using a submersible pump and the pumping rate recorded and the daily flow rate shall be measured by a totalizing flow meter, as the leakage is pumped/re-circulated back into the impoundment. The collection sump and leakage removal pump shall be sized, operated and maintained to prevent liner leakage, prevent overtopping of the LCRS sump and to maintain flow to the LCRS sump.

If damage is identified during an inspection that could cause or contribute to a discharge, proper repairs shall be promptly performed. The permittee shall comply with all additional operational and monitoring requirements as described in Sections 3.3 and 3.4. The liner system shall be maintained according to the BADCT design specified in Section 3.1.

3.2.1 Underdrain System Operation

This section is not applicable.

3.3 Evaporation Pond 3 Discharge Limitations

[A.R.S. §§ 49-201(14), 49-243 and A.A.C. R18-9-A205(B)]

3.3.1 Holding Capacity and Flow Limitations

The total maximum design holding capacity for the impoundment shall be 2132 million gallons. The holding capacity shall not be exceeded.

3.3.2 Authorized and Unauthorized Materials

Evaporation Pond 3 is designated and authorized for the storage of cooling tower blowdown and wastewater from the generating units. In the event of liner failure, containment structure failure,

DRAFT FOR REVIEW AND DISCUSSION PURPOSES ONLY

unexpected loss of fluid, overtopping or discharge of unauthorized material, refer to Sections 3.5.2 Discharge Limitations and 3.5.4 Emergency Response and Contingency Requirements for Unauthorized Discharges. The discharge to the impoundment shall not contain any organic solvents, or hazardous substances (A.R.S. § 49-201(18)) that are not associated with aforementioned routine operations and the authorized waste streams. In the event of an unauthorized discharge or accidental spill, the permittee shall initiate the contingency requirements as described in Sections 3.5 Evaporation Pond Contingency Requirements and 3.5.4 Emergency Response and Contingency Requirements for Unauthorized Discharges.

Fluids from any APP-regulated pond may be discharged to Evaporation Pond 3 as part of maintenance, repair, or contingency response actions.

3.3.3 Surface Impoundment and Equipment Maintenance

The permittee shall maintain the impoundment to the maximum extent practicable to ensure that there are no liner failures, uncontrollable leaks, overtopping, berm breaches, accidental spills, or other unauthorized discharges into the environment. In the event of an unauthorized discharge or accidental spill, the permittee shall initiate the contingency requirements as described in Sections 3.5. Evaporation Pond Contingency Requirements and 3.5.4 Emergency Response and Contingency Requirements).

3.4 Evaporation Pond 3 Monitoring Requirements

All monitoring required in this permit shall continue for the duration of the permit, regardless of the status of the facility. All sampling, preservation and holding times shall be in accordance with currently accepted standards of professional practice. Trip blanks, equipment blanks and duplicate samples shall also be obtained, and chain of custody procedures shall be followed, in accordance with currently accepted standards of professional practice. The permittee shall consult the most recent version of the ADEQ Quality Assurance Project Plan (QAPP) and EPA 40 CFR PART 136 for guidance in this regard. Copies of laboratory analyses and chain of custody forms shall be maintained at the permitted facility. Upon request these documents shall be made immediately available for review by ADEQ personnel.

3.4.1 Discharge Monitoring [A.R.S. § 49-243(K)(1), A.A.C. R18-9-A206(A)]

Routine discharge monitoring is not a condition of this permit. Contingency monitoring shall be performed in the event of an Alert Level 2 exceedance in accordance with Section 3.5.1.2.B.

3.4.1.1 Initial Discharge Characterization

An initial wastewater discharge characterization was completed a part of APP P100388 permitting requirements. Processes which create the wastewater discharged to the evaporation pond system has not changed since Evaporation Ponds 1 and 2 were permitted under the area-wide Aquifer Protection Permit Inventory Number 100388 and the same wastewater will be directed to Evaporation Pond 3. Initial discharge characterization for discharge to Evaporation Pond 3 is not required for this permit.

3.4.1.2 Routine Discharge Quality Monitoring

Routine discharge monitoring is not required under the terms of this permit.

3.4.1.3 Contingency Discharge Monitoring

Section 3.5.1.2.B of this permit contains provisions for collection of contingency samples from the LCRS sumps and wastewater in the impoundment in the event of an Alert Level #2 (AL2) exceedance (Table 5.2-3, Table 5.3-1 and Table 5.3-2).

3.4.2 Facility/Operational Monitoring

3.4.2.1 Wastewater Containment Structure Monitoring

During the operation of the impoundment, the operator shall properly maintain and inspect

DRAFT FOR REVIEW AND DISCUSSION PURPOSES ONLY

all wastewater containment structures according to Section 5.0, Table 5.2-2. A log of these inspections shall be kept at the facility for ten (10) years from the date of each inspection, available for review by ADEQ personnel.

3.4.2.2 Leakage Collection and Removal System (LCRS) Monitoring

The permittee shall monitor the LCRS for the presence of fluids on a daily basis in accordance with Table 5.2-1 and Table 5.2-3.

If fluids are collected in the LCRS during use or operation of the impoundment, the permittee shall remove accumulated fluids from the collection sump(s) at a rate necessary to prevent fluids from backing up into the drainage layer. Leakage flow rates shall be calculated based on the amount of liquid removed in gallons per day (gpd) for comparison with liner leakage alert levels specified in Section 5.0, Table 5.2-3. If fluid detected exceeds the Alert Levels specified in Section 5.0, Table 5.2-3, then the permittee shall initiate the necessary contingency plan described in Section 3.5.1.2. A log of the monitoring activities and inspection results shall be kept at the facility for ten (10) years from the date of inspection and available for review by ADEQ personnel as necessary. Results of the LCRS monitoring shall be recorded and reported to ADEQ according to Section 3.6 (Reporting and Recordkeeping Requirements) of this permit.

3.4.3 Groundwater Monitoring**3.4.3.1 Point(s) of Compliance (P.O.C.) [A.R.S. § 49-244]**

The Point of Compliance is established by the following monitoring location:

P.O.C. Location	Latitude	Longitude
Monitor Well APP-4R	33 ° 21' 30" N	112 ° 52' 33" W

This permit does not require groundwater monitoring at the POC. Routine monitoring is required at the POC in the area-wide APP No. 100388.

The Director may amend this permit to designate additional points of compliance if information on groundwater gradients or groundwater usage indicates the need.

3.4.3.2 Groundwater Monitoring and Sampling Protocols

Routine groundwater monitoring is not required under the terms of this permit.

3.4.3.3 POC Well Replacement

In the event that one or more of the designated POC wells should become unusable or inaccessible due to damage, insufficient water in the well to sample for more than 2 sampling events, or any other event, a replacement POC well shall be constructed and installed upon approval by ADEQ. If the replacement well is fifty (50) feet or less from the original well, the ALs and/or AQLs calculated for the designated POC well shall apply to the replacement well. Otherwise, the ALs and/or AQLs shall be set following the provisions below in Section 3.4.3.4.

3.4.3.4 Establishing Alert Levels and Aquifer Quality Limits (AQLs)

Upon review of an Ambient Groundwater Monitoring Report (AGMR) for a replacement well or new well, ADEQ will set Alert Levels (ALs) and Aquifer Quality Limits (AQLs) for all constituents listed as "Reserved" or "To be Determined" or for replacement wells, as appropriate.

DRAFT FOR REVIEW AND DISCUSSION PURPOSES ONLY

For each of the monitoring constituents for which a numeric Aquifer Water Quality Standard (AWQS) has been adopted, the AQL shall be set using ADEQ's technical guidance and the ADEQ approved flow chart to evaluate the ambient groundwater quality data collected during the ambient sampling period. The AQL shall be set at the numeric AWQS or at the calculated value (mean plus two standard deviations typically), whichever is greater. For those constituents without established AWQS, the AQL shall remain designated "NE" or "Not Established". If the statistical value is used as the AQL, no Alert Level shall be proposed for that constituent. If the AWQS is used as the AQL, the alert level shall be set at 90% of the AWQS, unless the more conservative statistically calculated value is agreed to in order to allow early warning in areas where aquifer properties may warrant additional warning time.

3.4.4 Analytical Methodology

All samples collected for compliance monitoring shall be analyzed using Arizona state approved methods. If no state approved method exists, then any appropriate EPA approved method shall be used. Regardless of the method used, the detection limits must be sufficient to determine compliance with the regulatory limits of the parameters specified in this permit. Analyses shall be performed by a laboratory licensed by the Arizona Department of Health Services, Office of Laboratory Licensure and Certification. For results to be considered valid, all analytical work shall meet quality control standards specified in the approved methods. A list of Arizona state-certified laboratories can be obtained at the address below:

Arizona Department of Health Services
Office of Laboratory Licensure and Certification
250 North 17th Avenue
Phoenix, AZ 85007
Phone: (602) 364-0720

3.4.5 Installation and Maintenance of Monitoring Equipment

Monitoring equipment required by this permit shall be installed and maintained so that representative samples required by the permit can be collected. If new groundwater wells are determined to be necessary, the construction details shall be submitted to the ADEQ Groundwater Section for approval prior to installation and the permit shall be amended to include any new points.

3.5 Evaporation Pond 3 Contingency Plan Requirements

[A.R.S. § 49-243(K)(3), (K)(7) and A.A.C. R18-9-A204 and R18-9-A205]

At least one copy of the approved contingency and emergency response plan(s) submitted in the application in Attachment A to the application dated November 30, 2007 shall be maintained at the location where day-to-day decisions regarding the operation of the facility are made. The permittee shall be aware of and follow the contingency and emergency plans.

Any alert level (AL) that is exceeded or any violation of an aquifer quality limit (AQL), discharge limit (DL), or other permit condition shall be reported to ADEQ following the reporting requirements in Section 3.6.3.

Some contingency actions involve verification sampling. Verification sampling shall consist of the first follow-up sample collected from a location that previously indicated a violation or the exceedance of an AL. Collection and analysis of the verification sample shall use the same protocols and test methods to analyze for the pollutant or pollutants that exceeded an AL or violated an AQL. The permittee is subject to enforcement action for the failure to comply with any contingency actions in this permit. Where verification sampling is specified in this permit, it is the option of the permittee to perform such sampling. If verification sampling is not conducted within the timeframe allotted, ADEQ and the permittee shall presume the initial sampling result to be confirmed as if verification sampling has been conducted. The permittee is responsible for compliance with contingency plans relating to the exceedance of an AL or violation of a DL, AQL or any other permit

condition.

3.5.1 Exceeding of Alert Levels (ALs)

3.5.1.1 Exceeding of Alert Level - Freeboard

In the event that freeboard becomes less than a required minimum of 5 feet for the impoundment, specified in Section 5.2 Table 5.2-2, the permittee shall:

1. Immediately cease discharging to the impoundment to prevent overtopping. Remove, circulate in the system or properly dispose of the excess wastewater in the impoundment as needed until the water level is restored at or below the impoundment specific freeboard limit. Record in the facility log/recordkeeping file, the amount of wastewater removed, a description of the removal method, and the disposal arrangements. The facility log/recordkeeping file shall be maintained according to Section 3.6.2 (Operational Inspection / Log Book Recordkeeping).
2. Within five business days of discovery of freeboard exceedance, notify ADEQ of the alert level exceedance as specified in Section 3.6.3 (Permit Violation and AL Status Reporting).
3. Within five business days of discovery, evaluate the cause of the incident and adjust operational conditions as necessary to avoid future occurrences. Records documenting each freeboard incident and actions taken to correct the problem shall be included in the Annual Report as required in Section 3.6.4 (Operational, Other or Miscellaneous Reporting) of this permit.

The facility is no longer on alert status once the operational indicator no longer indicates that an AL is being exceeded. The permittee shall complete all tasks necessary to return the facility to its pre-alert operating condition.

3.5.1.2 Exceeding of Alert Levels for LCRS Monitoring/Operation

A. Exceeding of AL1 for Normal Liner Leakage

If an AL1 as specified in Section 5.0, TABLE 5.2-3 has been exceeded, the permittee shall take the following actions:

1. Within 5 business days, notify ADEQ Water Quality Compliance Section, Enforcement Unit, in accordance with Section 3.6.3 (Permit Violation and AL Status Reporting).
2. Within 15 business days, assess the condition of the liner system using visual methods, electrical leak detection, or other methods as applicable. The permittee may implement elevation control or other methods to reduce the leakage rate to end the exceeded AL condition or operate with AL1 being exceeded.
3. Within 30 calendar days of discovery of exceeding AL1, the permittee shall submit an initial report to ADEQ Water Quality Compliance Section, Enforcement Unit to address problems identified from the initial assessment of the liner system, the source of the fluid, and any remedial actions taken to minimize the future occurrences which may include elevation control for leakage rates that remain below AL2. The report shall include the results of the initial liner evaluation, methods used to locate the leak(s) if applicable, any repair procedures implemented to restore the liner to optimal operational status if required or performed, and other information necessary to ensure the future occurrence of the incidence will be minimized.
4. For leakage rates that continue to exceed AL1 and are below AL2, a Liner Leakage Assessment Report shall be included in the next annual report described in Section 3.6.4 (Operational, Other or Miscellaneous Reporting) of this permit. The permittee may also submit the Liner Leakage Assessment Report to ADEQ prior to the annual report due date. This Liner Leakage Assessment Report shall be submitted to the ADEQ Water Quality Compliance Section, Enforcement Unit and ADEQ Groundwater Section.

DRAFT FOR REVIEW AND DISCUSSION PURPOSES ONLY

ADEQ will review the Liner Leakage Assessment Report and may require that the permittee take additional action to address the problems identified from the assessment of the liner and perform other applicable repair procedures as directed by ADEQ, including repair of the liner or addressing and controlling infiltration of non-operational water detected in the LCRS.

B. Exceeding of AL2 for Excessive Liner Leakage

If an Alert Level 2 specified in Section 5.0, Table 5.2-3 has been exceeded, the permittee shall:

1. Immediately cease all discharge to the impoundment or redirect the discharge to another impoundment which does not have an AL2 violation.
2. Within 5 business days of discovery, notify ADEQ Water Quality Compliance Section, Enforcement Unit, in accordance with Section 3.6.3 (Permit Violation and AL Status Reporting).
3. Within 5 business days, collect samples from the liquid contained in the collection sump and analyze the samples in accordance with Section 5.0, Tables 5.3-1 and 5.3-2. Within 30 calendar days of exceeding an AL2, submit the analytical data to ADEQ Water Quality Compliance Section, Enforcement Unit.
4. Within 30 calendar days identify the location of the leak(s) using visual methods, electrical leak detection or other methods as applicable. Within 30 days, initiate removal or transfer of fluid from the impoundment to an alternate impoundment or offsite disposal location as needed to control fluid elevation to prevent further releases to the subsurface and/or as necessary to perform repairs.
5. Within 30 calendar days of exceeding an AL2, submit a report to ADEQ as specified in Section 3.6.3 (Permit Violation and AL Status Reporting). Upon review of the report, ADEQ may request additional monitoring or remedial actions.
6. Within 60 calendar days of exceeding an AL2, submit for approval to ADEQ, a corrective action plan to address all problems identified from the assessment of the liner system. At the direction of ADEQ, the permittee shall implement the approved plan.
7. Within 30 calendar days of being directed to implement the approved plan by ADEQ, repair any leaks identified in B.4 above and perform all approved corrective actions. For any significant repairs identified by the permittee in the corrective action plan that may require more than 30 days to complete, the permittee may request and ADEQ may consider the request to extend the timeframe for completion of corrective actions and submit reports in accordance with Section 2.6.3.
8. Within 30 calendar days of completion of corrective actions, submit to ADEQ, a written report as specified in Section 3.5.5 (Corrective Actions).

3.5.1.3 Exceeding Operational Performance Alert Levels

If any operational AL set in Section 5.2, Table 5.2-2 has been exceeded, the permittee shall within 5 business days of exceedance implement a corrective action plan, which includes the following:

1. Reduce or cease discharge to the impoundment, as necessary to perform repairs;
2. Implement necessary repair or maintenance works on structures or equipment to restore it to proper operational or working conditions;
3. Clear the impoundment and its vicinity of any excessive growth of vegetation which may cause cracks or damage to the pollutant control structures; and,
4. A log of all repair works shall be maintained on site for inspection by ADEQ.

The facility is no longer on alert status once the operational indicator no longer indicates that an AL is being exceeded. The permittee shall, however, complete all tasks necessary to return the facility to its pre-alert operating condition.

DRAFT FOR REVIEW AND DISCUSSION PURPOSES ONLY**3.5.2 Discharge Limitations (DL) Violations****3.5.2.1 Unexpected Loss of Wastewater, Leakage, or Structure Failure**

If there is unexpected loss of wastewater in the impoundment, or any other indication of leakage or failure of a wastewater containment structure, such that fluids are released to the vadose zone, the permittee shall take the following actions:

1. Immediately cease discharging to the impoundment as necessary to prevent any further releases to the environment.
2. Within five business days of discovery of the condition, notify ADEQ in writing as specified in Section 3.6.3 (Permit Violation and AL Status Reporting).
3. Within five business days of discovery, collect a representative sample of the wastewater remaining in the reservoir. Samples shall be analyzed for the parameters specified in Section 5.3, Table 5.3-2.
4. Within five business days of discovery, initiate an evaluation to determine the cause of the incident. Identify the circumstances that resulted in the failure and assess the condition of the impoundment and liner. Initiate any response actions that may be taken to minimize releases to the subsurface.
5. Within 30 calendar days of the on-set of the condition, the permittee shall submit for ADEQ approval a corrective action plan to restore the impoundment to proper function and return the facility to compliance with this permit, or to remove the impoundment from service as specified in Section 3.7 and 3.8 and amend this permit as needed to reflect change in status. The plan shall include a schedule for performing corrective actions and provide details regarding methods proposed for corrective action. Corrective actions may include temporary response actions such as water elevation control to maintain a water level below leaks identified in the liner and long term response actions. This corrective action plan may be amended as new information becomes available to the permittee during response actions.
6. The permittee shall implement the corrective action plan within 60 days of initial notification to ADEQ.
7. Within 30 calendar days of discovery of the incident, submit a written report to ADEQ as specified in Section 3.6.3 (Permit Violation and AL Status Reporting). Include a description of the actions performed in 1 through 7 listed above and a copy of the analytical results, or if the investigation is incomplete, a plan of action to return the facility to compliance. Upon review of the report, ADEQ may request additional monitoring or remedial action. For a condition lasting more than 90 days, routine status reports shall be provided to ADEQ as required in Section 3.6.3.
8. Repair procedures, methods, and materials used to restore the reservoir to proper operating condition shall be described in the facility log/recordkeeping (Section 3.6.2) and made available to ADEQ for review upon request.
9. Within 60 calendar days of discovery, initiate an assessment of the impacts to the subsoil and/or groundwater resulting from the incident. If soil or groundwater is impacted, submit a corrective action plan to ADEQ within 90 calendar days of discovery, to address problems identified in the assessment, including identification of releases to the environment, remedial actions and/or monitoring, and a schedule for completion of activities. At direction of ADEQ, the permittee shall implement the approved plan.
10. Within 30 calendar days of completion of corrective actions, submit to ADEQ, a written report as specified in Section 3.5.5 (Corrective Actions).

3.5.2.2 Overtopping of the Surface Impoundment

If overtopping of fluid from the impoundment berms occurs, the permittee shall:

1. Immediately cease all discharges directly to the impoundment to prevent any further releases to the environment.

DRAFT FOR REVIEW AND DISCUSSION PURPOSES ONLY

2. Within 5 business days of discovery, notify ADEQ Water Quality Compliance Section Enforcement Unit and the Groundwater Section of the overtopping event in writing in accordance with Section 3.6.3 (Permit Violation and AL Status Reporting).
3. Within 5 business days, collect representative samples of the wastewater contained in the impoundment for use in assessing potential subsurface impact. Samples shall be analyzed for the parameters specified in Section 5.0, Table 5.3-2.
4. Within 5 business days of discovery, initiate the removal, re-circulation or proper disposal of excess water in the impoundment until the water level is restored at or below the required 5 feet of freeboard. Record in the facility log, the amount of wastewater removed, a description of the removal method, and the disposal arrangements. The facility log shall be maintained according to Section 3.6.2 (Operation Inspection / Log Book Recordkeeping).
5. Within 30 calendar days of discovery, evaluate the cause of the overtopping and identify the circumstances that resulted in the incident. Implement corrective actions and adjust operational conditions as necessary to resolve the problems identified in the evaluation. Repair any systems as necessary to prevent future occurrences of overtopping.
6. Within 30 calendar days of discovery of overtopping, submit a report to ADEQ as specified in Section 3.6.3 (Permit Violation and AL Status Reporting) including the analytical results of wastewater sample(s) collected in the impoundment. Include a description of the actions performed in 1 through 5 listed above. Upon review of the report, ADEQ may request additional monitoring or remedial actions.
7. Within 60 calendar days of discovery, conduct an assessment of the impacts to the subsoil and/or groundwater resulting from the incident. If soil or groundwater is impacted, within 60 days of completing the assessment, submit to ADEQ, for approval, a corrective action plan to address problems identified in the assessment, including identification of releases to the environment, remedial actions and/or monitoring, and a schedule for completion of activities. At direction of ADEQ, the permittee shall implement the approved plan. Any assessment of potential groundwater contamination shall include an updated well inventory, groundwater contour maps and direction of and velocity of groundwater flow, connection between the shallow and regional groundwater and the potential impacts to the regional aquifer.
8. Within 30 calendar days of completion of all required corrective actions, submit to ADEQ, a written report as specified in Section 3.5.5 (Corrective Actions).

3.5.2.3 Discharge of Unauthorized Materials to the Impoundment

Authorized discharges are specified in Section 3.3 (Discharge Limitations). If any unauthorized materials are discharged to the impoundment, the permittee shall:

1. Immediately cease all unauthorized discharges to the impoundment.
2. Within 5 business days of discovery, notify ADEQ Water Quality Compliance Section Enforcement Unit and the Groundwater Section in writing in accordance with Section 3.6.3 (Permit Violation and AL Status Reporting).
3. Within 5 business days of the incident, identify the source of the material and determine the cause for the discharge. Evaluate the discharge to determine if it is compatible with the impoundment liner. Based on the evaluation of the incident, repair any systems or equipment and/or adjust operations, as necessary to prevent future occurrences of unauthorized discharges.
4. Within 30 calendar days of a discharge of unauthorized materials to the impoundment, submit a report to ADEQ as specified in Section 3.6.3 (Permit Violation and AL Status Reporting). Include a description of the actions performed in 1 through 3 listed above. Upon review of the report, ADEQ may request additional monitoring or remedial actions.
5. If soil or groundwater is impacted, submit a corrective action plan to ADEQ within 60 calendar days of discovery, to address problems identified in the assessment. The

DRAFT FOR REVIEW AND DISCUSSION PURPOSES ONLY

corrective action plan shall address problems identified in the assessment, including identification of releases to the environment, remedial actions and/or monitoring, and a schedule for completion of activities. At the direction of ADEQ, the permittee shall implement the approved plan. Within 30 calendar days of completion of corrective actions, submit to ADEQ, a written report as specified in Section 3.5.5 (Corrective Actions).

3.5.3 Aquifer Quality Limit (AQL) Violation

Groundwater monitoring is not a requirement of this permit.

3.5.4 Emergency Response and Contingency Requirements for Unauthorized Discharges pursuant to A.R.S. §49-201(12) and pursuant to A.R.S. § 49-241**3.5.4.1 Duty to Respond**

The permittee shall act immediately to correct any condition resulting from a discharge pursuant to A.R.S. § 49-201(12) if that condition could pose an imminent and substantial endangerment to public health or the environment.

3.5.4.2 Discharge of Hazardous Substances or Toxic Pollutants

In the event of any unauthorized discharge pursuant to A.R.S. § 49-201(12) of suspected hazardous substances (A.R.S. § 49-201(18)) or toxic pollutants (A.R.S. § 49-243(I)) on the facility site, the permittee shall promptly isolate the area and attempt to identify the discharged material. The permittee shall record information, including name, nature of exposure and follow-up medical treatment, if necessary, on persons who may have been exposed during the incident. The permittee shall notify the ADEQ Water Quality Division Compliance Section Manager at (602) 771-4497 and the Groundwater Section Manager at (602) 771-4827 within 24-hours upon discovering the discharge of hazardous material which:

- a) has the potential to cause an AWQS or AQL to be exceeded; or
- b) could pose an endangerment to public health or the environment.

3.5.4.3 Discharge of Non-hazardous Materials

In the event of any unauthorized discharge pursuant to A.R.S. § 49-201(12) of non-hazardous materials from the facility, the permittee shall promptly attempt to cease the discharge and isolate the discharged material. Discharged material shall be removed and the site cleaned up as soon as possible. The permittee shall notify the ADEQ Water Quality Division Compliance Section Manager at (602) 771-4497 and the Groundwater Section Manager at (602) 771-4827 within 24-hours upon discovering the discharge of non-hazardous material which:

- a) has the potential to cause an AQL to be exceeded; or
- b) could pose an endangerment to public health or the environment.

3.5.4.4 Reporting Requirements

The permittee shall submit a written report for any unauthorized discharges reported under Sections 3.5.4.2 and 3.5.4.3 to ADEQ Water Quality Division Compliance Section Manager at (602) 771-4497 and the Groundwater Section Manager at (602) 771-4827 within 30 calendar days of the discharge or as required by subsequent ADEQ action. The report shall summarize the event, including any human exposure, and facility response activities and include all information specified in Section 3.6.3. If a notice is issued by ADEQ subsequent to the discharge notification, any additional information requested in the notice shall also be submitted within the time frame specified in that notice. Upon review of the submitted report, ADEQ may require additional monitoring or corrective actions.

DRAFT FOR REVIEW AND DISCUSSION PURPOSES ONLY

3.5.5 Corrective Actions

Specific contingency measures identified in Section 3.5 have already been approved by ADEQ and do not require written approval to implement.

With the exception of emergency response actions taken under Section 3.5.4 the permittee shall obtain written approval from the Groundwater Section prior to implementing a corrective action to accomplish any of the following goals in response to exceeding an AL or violation of an AQL, DL, or other permit condition:

1. Control of the source of an unauthorized discharge;
2. Soil cleanup;
3. Cleanup of affected surface waters;
4. Cleanup of affected parts of the aquifer;
5. Mitigation to limit the impact of pollutants on existing uses of the aquifer.

Within 30 calendar days of completion of any corrective action, the operator shall submit to the ADEQ Water Quality Compliance Section, a written report describing the causes, impacts, and actions taken to resolve the problem.

3.6 Reporting and Recordkeeping Requirements

[A.R.S. § 49-243(K)(2) and A.A.C. R18-9-A206(B) and R18-9-A207]

3.6.1 Self Monitoring Report Forms (SMRFs)

SMRFs shall be required for liner leakage sump inspection and sampling results, liner integrity inspections, and all APP well monitoring required under this permit.

1. The permittee shall complete the SMRFs provided by ADEQ, and submit them to the Water Quality Compliance Section, Data Unit.
2. The permittee shall complete the SMRF to the extent that the information reported may be entered on the form. If no information is required during a quarter, the permittee shall enter "not required" on the SMRF and submit the report to ADEQ. The permittee shall use the format devised by ADEQ.
3. The tables contained in Sections 5.0 list the parameters to be monitored and the frequency for reporting results for groundwater compliance monitoring. Analytical methods shall be recorded on the SMRFs.
4. In addition to the SMRF, the information contained in A.A.C. R18-9-A206(B)(1) shall be included for exceeding an AL or violation of an AQL, DL, or any other permit condition being reported in the current reporting period.

3.6.2 Operation Inspection / Log Book Recordkeeping

A signed copy of this permit shall be maintained at all times at the location where day-to-day decisions regarding the operation of the facility are made. A log book (paper copies, forms or electronic data) of the inspections and measurements required by this permit shall be maintained at the location where day-to-day decisions are made regarding the operation of the facility. The log book shall be retained for ten years from the date of each inspection, and upon request, the permit and the log book shall be made immediately available for review by ADEQ personnel. The information in the log book shall include, but not be limited to, the following information as applicable:

1. Name of inspector;
2. Date and shift inspection was conducted;
3. Condition of applicable facility components;
4. Any damage or malfunction, and the date and time any repairs were performed;
5. Documentation of sampling date and time;
6. Any other information required by this permit to be entered in the log book, and
7. Monitoring records for each measurement shall comply with R18-9 A206(B)(2).

DRAFT FOR REVIEW AND DISCUSSION PURPOSES ONLY

3.6.3 Permit Violation and Alert Level Status Reporting

1. The permittee shall notify the Water Quality Compliance Section Manager and the Groundwater Section Manager in writing within 5 business (except as provided in Section 3.5.4) of becoming aware of a violation of any permit condition, discharge limitation or of an Alert Level being exceeded.
 2. The permittee shall submit a written report to the Water Quality Compliance Section Manager and a copy to the Groundwater Section Manager within 30 calendar days of becoming aware of the violation of any permit condition or discharge limitation. The report shall document all of the following:
 - a. Identification and description of the permit condition for which there has been a violation and a description of its cause.
 - b. The period of violation including exact date(s) and time(s), if known, and the anticipated time period during which the violation is expected to continue.
 - c. Any corrective action taken or planned to mitigate the effects of the violation, or to eliminate or prevent a recurrence of the violation.
 - d. Any monitoring activity or other information which indicates that any pollutants would be reasonably expected to cause a violation of an Aquifer Water Quality Standard.
 - e. Proposed changes to the monitoring which include changes in constituents or increased frequency of monitoring.
 - f. Description of any malfunction or failure of pollution control devices or other equipment or processes.
 - g. Copies of certified analytical reports (CARs), chain of custody forms, and a description of any sampling and monitoring methods used to determine, verify or assess compliance status.
- For any condition lasting more than 90 calendar days, the permittee shall commence quarterly status reporting to keep ADEQ informed of the status of investigations, assessments, repairs, and corrective actions. Status reports shall be submitted to the Groundwater Section Manager and the Water Quality Compliance Section Manager. The status reports shall provide an update on all response actions and a schedule for completing response actions. The reports shall be submitted until such time as the condition is corrected to pre-alert or pre-violation status or ADEQ provides written notification that the reports are no longer necessary.

3.6.4 Operational, Other or Miscellaneous Reporting

3.6.4.1 Annual Reporting Requirements

The goal and purpose of annual reporting requirements are to allow the permittee and ADEQ to keep current the status of the permit compliance and performance under this permit to assure the public that human health and the environment including future and foreseeable drinking water uses of groundwater are protected through implementation of all provisions of this permit. The secondary purpose is to allow constant assessment of the adequacy of this permit in achieving the primary goal and to allow rapid determinations to be made regarding the potential need for revision or amendment of the permit and more specifically, the monitoring provisions of this permit. Appropriate components of the report required by this Section shall be sealed by an Arizona registered geologist or registered professional engineer, in accordance with Arizona Board of Technical Registration (BTR) requirements.

DRAFT FOR REVIEW AND DISCUSSION PURPOSES ONLY

A. Annual Monitoring and Compliance Report

Each year the permittee shall submit a report to the Water Quality Compliance Section Manager and a copy to the Groundwater Section Manager summarizing the results of the facility's performance. The report shall be divided into Impoundment Monitoring, and Compliance Status under this permit. The report shall also include identification and discussion of any laboratory results that fall outside of the laboratory's QA/QC criteria and the detection levels required by this permit. The report may be combined with the Annual Report for the area-wide APP and shall contain the following sections with the specified information:

1. Groundwater Monitoring

This section is not applicable.

2. Impoundment Monitoring

This section of the report shall contain the following information:

- a. Sump monitoring results;
- b. Summaries of contingency analytical results;
- c. Summary of maintenance and repair activities;
- d. Summary of the results of all liner leakage; and,
- e. Summary tables of all basin, impoundment and reservoir data which allows data to be readily compared to leakage and discharge quality alert levels and previous data.

3. Compliance Status

This section of the report shall contain the following information:

- a. Contingency Plan actions taken for releases;
- b. Violations of this permit; and
- c. Identification of Alert Levels, AQLs, Aquifer Water Quality Standards, or Discharge Limitations that have been exceeded during the reporting period and a discussion of the trend in concentrations compared to the previous reporting periods and actions taken to correct the exceeded levels.

B. Annual Status Meetings

After reviewing the Annual Monitoring and Compliance Report, ADEQ may request a status meeting with the permittee. The status meetings shall include request for participation of the management from the Groundwater Section and the Water Quality Compliance Section and representatives of APS.

3.6.5 Reporting Location

All SMRFs shall be submitted to:

Arizona Department of Environmental Quality
 Water Quality Compliance Section, Data Unit
 Mail Code: 5415B-1
 1110 W. Washington Street
 Phoenix, AZ 85007
 Phone (602) 771-4513

All documents required by this permit to be submitted to the Water Quality Compliance Section shall be directed to:

Arizona Department of Environmental Quality
 Water Quality Compliance Section, Section Manager
 Mail Code: 5415B-1
 1110 W. Washington Street

DRAFT FOR REVIEW AND DISCUSSION PURPOSES ONLY

Phoenix, AZ 85007
Phone (602) 771-4497

All documents required by this permit to be submitted to the Groundwater Section shall be directed to:
Arizona Department of Environmental Quality
Groundwater Section, Section Manager
Mail Code: 5415B-3
1110 W. Washington Street
Phoenix, AZ 85007
Phone (602) 771-4427

3.6.6 Reporting Deadline

The following table lists the quarterly report due dates:

Monitoring conducted during quarter:	Quarterly Report due by:
January-March	April 30
April-June	July 30
July-September	October 30
October-December	January 30

Annual Report	
January-December	May 15 of the following year

3.6.7 Changes to Facility Information in Section 1.0

The Groundwater Section and Water Quality Compliance Section shall be notified within 10 business days of any change of facility information including Facility Name, Permittee Name, Mailing or Street Address, Facility Contact Person or Emergency Telephone Number.

3.7 Temporary Cessation [A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A209(A)]

The permittee shall give written notice to the Water Quality Compliance Section before ceasing operation of the facility for a period of 60 calendar days or greater. The permittee shall take the following measures upon temporary cessation:

At the time of notification the permittee shall submit for ADEQ approval a plan for maintenance of discharge control systems and for monitoring during the period of temporary cessation. Immediately following ADEQ's approval, the permittee shall implement the approved plan. If necessary, ADEQ shall amend permit conditions to incorporate conditions to address temporary cessation. During the period of temporary cessation, the permittee shall provide written notice to the Water Quality Compliance Section of the operational status of the facility every three years. If the permittee intends to permanently cease operation of any facility, the permittee shall submit closure notification, as set forth in Section 3.8 below.

3.8 Closure [A.R.S. §§ 49-243(K)(6), 49-252 and A.A.C. R18-9-A209(B)]

For a facility addressed under this permit, the permittee shall give written notice of closure to the Water Quality Compliance Section Manager and Groundwater Section Manager of the permittee's intent to cease operation without resuming activity for which the facility was designed or operated.

DRAFT FOR REVIEW AND DISCUSSION PURPOSES ONLY**3.8.1 Closure Plan**

Within 90 calendar days following notification of closure, the permittee shall submit for approval to the Groundwater Section, a Closure Plan which meets the requirements of A.R.S. § 49-252 and A.A.C. R18-9-A209(B)(1)(a). Furthermore, the plan shall include the following specific activities:

1. Remove remaining water from the impoundment through evaporation.
2. Remove any sludge or sediments from the impoundment.
3. Remove the composite liner system (including the primary and secondary liners, geonet, GCL, and leak collection and removal system (LCRS) components), and dispose of the materials in an approved landfill. The liners and the depositional material will be disposed of in accordance with state and federal requirements.
4. Demolition of the concrete structures associated with the impoundment to a level approximately three feet below grade and backfill with soil materials.
5. Sample and test the soils beneath the composite liner system in the impoundment and compare results to appropriate Soil Remediation Levels. Remove and appropriately dispose of soils with concentrations above the soil remediation levels.
6. Deconstruct the impoundment embankments and use the soil to backfill the impoundment. Import additional material to return the land to pre-impoundment conditions.
7. Regrade and re-vegetate the impoundment area.

If the closure plan achieves clean closure immediately, ADEQ shall issue a letter of approval to the permittee. If the closure plan contains a schedule for bringing the facility to a clean closure configuration at a future date, ADEQ may incorporate any part of the schedule as an amendment to this permit.

3.8.2 Closure Completion

Upon completion of closure activities, the permittee shall give written notice to the Groundwater Section indicating that the approved Closure Plan has been implemented fully and providing supporting documentation to demonstrate that clean closure has been achieved (soil sample results, verification sampling results, groundwater data, as applicable). If clean closure has been achieved, ADEQ shall issue a letter of approval to the permittee at that time. If any of the following conditions apply, the permittee shall follow the terms of Post Closure stated in this permit:

1. Clean closure cannot be achieved at the time of closure notification or within one year thereafter under a diligent schedule of closure actions;
2. Further action is necessary to keep the facility in compliance with aquifer water quality standards at the applicable point of compliance;
3. Continued action is required to verify that the closure design has eliminated discharge to the extent intended;
4. Remedial or mitigative measures are necessary to achieve compliance with Title 49, Ch. 2;
5. Further action is necessary to meet property use restrictions.

3.9 Post-Closure [A.R.S. §§ 49-243(K)(6), 49-252 and A.A.C. R18-9-A209(C)]

Post-closure requirements shall be established based on a review of facility closure actions and will be subject to review and approval by the Groundwater Section.

In the event clean closure cannot be achieved pursuant to A.R.S. § 49-252, the permittee shall submit for approval to the Groundwater Section a Post-Closure Plan that addresses post-closure maintenance and monitoring actions at the facility. The Post-Closure Plan shall meet all requirements of A.R.S. §§ 49-201(29) and 49-252 and A.A.C. R18-9-A209(C). Upon approval of the Post-Closure Plan, this permit shall be amended or a new permit shall be issued to incorporate all post-closure controls and monitoring activities of the Post-Closure Plan.

DRAFT FOR REVIEW AND DISCUSSION PURPOSES ONLY

3.9.1 Post-Closure Plan [A.R.S. §§ 49-243(K)(6), 49-252 and A.A.C. R18-9 A209(C)]

Post-closure requirements shall be established based on a review of facility closure actions and will be subject to review and approval by the Groundwater Section.

In the event clean closure cannot be achieved pursuant to A.R.S. § 49-252, the permittee shall submit for approval to the Groundwater Section a Post-Closure Plan that addresses post-closure maintenance and monitoring actions at the facility. The Post-Closure Plan shall meet all requirements of A.R.S. §§ 49-201(29) and 49-252 and A.A.C. R18-9-A209(C). Upon approval of the Post-Closure Plan, this permit shall be amended or a new permit shall be issued to incorporate all post-closure controls and monitoring activities of the Post-Closure Plan.

3.9.2 Post-Closure Completion

Post-closure requirements shall be established based on a review of facility closure actions and the closure summary report and will be subject to review and approval by the Groundwater Section.

DRAFT FOR REVIEW AND DISCUSSION PURPOSES ONLY**4.0 COMPLIANCE SCHEDULE [A.R.S. § 49-243(K)(5) and A.A.C. R18-9-A208]**

For each compliance schedule item listed below, the permittee shall submit the required information, including a cover letter that lists the compliance schedule items, to the Groundwater Section Manager. A copy of the cover letter must also be submitted to the Water Quality Compliance Section Manager and a copy to the Data Unit.

Description	Completion/Submittal Date	Comments
Engineer's Certificate of Completion for Evaporation Pond 3A	Submit within 90 calendar days of completion of construction Evaporation Pond 3A, and no later than March 31, 2009.	Engineer's Certificate of Completion for Evaporation Pond 3A that is signed, dated and sealed by an Arizona registered professional engineer that confirms the facility was constructed according to Department-approved plans. This certificate shall include sub-grade and liner testing specified in the application and piping layout and connections. The certificate shall specify areas of overlap with Evaporation Pond 3B that are not applicable to 3A. The permittee may use notations as needed indicating what is applicable or excluded from the certification.
Evaporation Pond 3B Final Construction Report and Engineer's Certificate of Completion.	Submit 90 days after completion of construction and no later than February 28, 2010.	The report shall include the results of compaction testing and shall verify that the impoundment and sub-grade were constructed in accordance with ADEQ-approved plans and this permit and that seams and welds have passed required testing. The report shall document liner installation QA/QC procedures (including seam/weld testing and electrical testing of the primary conductive liner) <i>and final as-built plans for Evaporation Pond 3A and 3B</i> and inspection results for all pollution control components relating to the wastewater discharge and treatment processes associated with Evaporation Pond 3B. The submittal shall include the Engineer's Certificate of Completion for Evaporation Pond 3B.

DRAFT FOR REVIEW AND DISCUSSION PURPOSES ONLY**5.0 TABLES OF MONITORING REQUIREMENTS****5.1 PRE-OPERATIONAL MONITORING (or CONSTRUCTION REQUIREMENTS)**

Not applicable.

5.2 COMPLIANCE (or OPERATIONAL) MONITORING

Table 5.2-1 Evaporation Pond 3 Designated Operational Sampling and Monitoring Locations				
Measuring Point	Latitude (N)	Longitude (W)	Location Description	Frequency
Liquid Transfer Location Point	Pump location (record in Facility Logbook)	Pump location (Record in Facility Logbook)	Transfer Pump run-time meter	During Temporary Active Transfer of Wastewater between cells or ponds only - <u>obtain flow readings</u> based on pump capacity and run time measured at pump
Fluid Level Measuring Point				
3A West Embankment	33°21'34.16"	112°52'25.95"		Weekly
3A Int Embankment	33 °21 '34.92"	112° 52' 9.1"		Weekly
3B Int Embankment	33 °21' 34.39"	112 °52' 8.71"		Weekly
3B East Embankment	33° 21' 35.29"	112° 51' 51.86"		Weekly
Based on State Plane NAD27 Arizona Central, using Corpscon 6 software				
Leak Collection and Removal (LCRS) System				
3A West Collection Sump	33° 21' 34"	112° 52' 26"	LCRS Drain System	Daily
3A East Collection Sump	33° 21' 34"	112° 52 '09"	LCRS Drain System	Daily
3B West Collection Sump	33° 21' 34"	112° 52' 09"	LCRS Drain System	Daily
3B East Collection Sump	33° 21' 34"	112° 51' 52"	LCRS Drain System	Daily

Table 5.2-2
Evaporation Pond 3
Operational Performance Monitoring

Parameter	Performance Alert Level	Monitoring Frequency	Response Action	Reporting Frequency
Impoundment Freeboard	Minimum of 5 feet ¹	Weekly	Contingency Action for Exceeded Freeboard Alert Level. For Overtopping – see Discharge Limitation Violation, Section 3.5.2.2	Facility Logbook and as required by Section 3.6.3
Impoundment Fluid Level	No unexpected or sudden loss	Weekly and after a significant storm or other natural disaster affecting the facility	Contingency Actions for Exceeding Liner Leakage Alert Levels. For Sudden Losses or Liner Failure, see Discharge Limitation Violation, Section 3.5.2.1	Facility Logbook and as otherwise required by Section 3.6.3
Upper Liner Integrity	No visible tears, punctures, cracks, deformities, or other damage due to sunlight, wind, weather, debris, vegetation, animals, or other adverse conditions	Monthly and after a significant storm or other natural disaster affecting the facility, regardless of operational status	Contingency Actions for Exceeded Performance Alert Level. For Liner Failure or Excessive Liner Leakage/Sudden Loss, see Discharge Limitation Violation, Section 3.5.2.1	SMRFs, Facility Logbook and as otherwise required by Section 3.6.3
Dam and Berm Integrity	No visible structural damage, breach, erosion of embankments, or seepage through dam from liner leakage	Monthly and after a significant storm or other natural disaster affecting the facility regardless of operational status	Contingency Action for Operational Performance Alert Level. For breach resulting in Loss of Structural Integrity see Discharge Limit Violation, Section 3.5.2.1.	SMRFs Facility Logbook and as otherwise required by Section 3.6.3
Leak Collection and Removal System (LCRS)	No obstruction in the inspection sump, fluid level maintained below sump capacity, pump(s) maintained in good operational condition	Weekly and after a significant storm or other natural disaster affecting the facility regardless of operational status	Contingency Action for Operational Performance Alert Level. For Unauthorized Release to Subsurface or sump overflow, see Discharge Limitation Violation, Section 3.5.2.1	SMRFs, Facility Logbook and as otherwise required by Section 3.6.3
Flow Meter, Solution-Level Sensor, Chart Recorder, or other measuring device	Maintained for operational conditions	Monthly	Contingency Action for Operational Performance Alert Levels. 3.5.1.3	Facility Logbook and as otherwise required by Section 3.6.3

¹ EP3 was designed to meet ADWR dam safety requirements. ADEQ BADCT typically consists of a minimum of 2 feet of freeboard. To satisfy ADWR requirements, the EP3 design includes 5 feet of freeboard.

Table 5.2-3
Evaporation Pond 3
Leakage Collection and Removal System (LCRS) Monitoring

Zone/Sump	Parameter	Alert Level 1 (gpd) ¹	Alert Level 2 (gpd) ²	Monitoring Method	Monitoring Frequency ³	SMRF Reporting Frequency
3A Collection Sumps						
West	Liquid Pumped ⁴	31,613	1,006,798	Electronic or Manual	Daily	Quarterly
East	Liquid Pumped ⁴	31,613	1,006,798	Electronic or Manual	Daily	Quarterly
3B Collection Sumps						
West	Liquid Pumped ⁴	31,613	1,006,798	Electronic or Manual	Daily	Quarterly
East	Liquid Pumped ⁴	31,613	1,006,798	Electronic or Manual	Daily	Quarterly

- Alert Level #1 is the daily threshold value at which the permittee shall place into action the appropriate requirements specified in Section 3.5.1.2.A (Exceeding of ALs for LCRS Monitoring/Operation).
- Alert Level #2 is the daily threshold value at which the permittee shall place into action the appropriate requirements specified in Section 3.5.1.2.B (Exceeding of ALs for LCRS Monitoring/Operation).
- LCRS inspection and leakage quantification shall be performed daily. Evacuation of fluids in the sump shall be performed as necessary for accurate monitoring and effective operation of the collection system. Routine analysis of sump fluids is not required. However, characterization of sump fluids is required as a contingency action in Section 3.5.1.2(3).
- The “Liquid Pumped” value to be reported is the amount of liquid pumped from the LCRS sump in gallons per day (gpd). This value shall be reported in Quarterly SMRFs, in the Annual Report, and maintained in the Facility Logbook.

5.3 CONTINGENCY MONITORING

Table 5.3-1 Evaporation Pond 3 Contingency Wastewater Sampling Locations				
Point Description	Latitude (N)	Longitude (W)	Sample Description	Frequency
Composite Point North End of 3A	33° 21' 47"	112° 52' 17"	Wastewater Discrete Sample	Contingency Response Only
Composite Point South End of 3A	33° 21' 22"	112° 52' 17"	Wastewater Discrete Sample	Contingency Response Only
Composite Point North End of 3B	33° 21' 47"	112° 52' 01"	Wastewater Discrete Sample	Contingency Response Only
Composite Point South End of 3B	33° 21' 22"	112° 52' 01"	Wastewater Discrete Sample	Contingency Response Only
3A West Collection Sump	33° 21' 34"	112° 52' 26"	LCRS Drain System	Contingency Response Only
3A East Collection Sump	33° 21' 34"	112° 52' 09"	LCRS Drain System	Contingency Response Only
3B West Collection Sump	33° 21' 34"	112° 52' 09"	LCRS Drain System	Contingency Response Only
3B East Collection Sump	33° 21' 34"	112° 51' 52"	LCRS Drain System	Contingency Response Only

Table 5.3-2 Evaporation Pond 3 Contingency Wastewater and LCRS Fluid Sampling (One Sampling Event Per Exceeded Liner Leakage AL#2 or Liner Failure Event)			
Parameter^{1,3}	AWQS/DL⁵	Monitoring Frequency	Reporting Frequency
Radionuclide Indicator Parameters			
Tritium (pCi/L)	20,000	Once per Event	Per Section 3.6.3
Iodine-131 (pCi/L)	100	Once per Event	Per Section 3.6.3
Cesium-134 (pCi/L)	75	Once per Event	Per Section 3.6.3
Cobalt-60 (pCi/L)	200	Once per Event	Per Section 3.6.3
Cation/Anion Balance ⁴	NE ⁶	Once per Event	Per Section 3.6.3
pH (SU)	<4 or > 11	Once per Event	Per Section 3.6.3
Antimony (dissolved) (mg/L)	NE ⁶	Once per Event	Per Section 3.6.3
Arsenic (dissolved) (mg/L)	0.05	Once per Event	Per Section 3.6.3
Barium	2	Once per Event	Per Section 3.6.3
Beryllium (dissolved) (mg/L)	0.004	Once per Event	Per Section 3.6.3
Boron (mg/L)	NE ⁶	Once per Event	Per Section 3.6.3
Cadmium (dissolved) (mg/L)	0.005	Once per Event	Per Section 3.6.3
Chromium (dissolved) (mg/L)	0.1	Once per Event	Per Section 3.6.3
Fluoride (mg/L) ⁴	4.0	Once per Event	Per Section 3.6.3
Lead (dissolved) (mg/L)	0.05	Once per Event	Per Section 3.6.3
Mercury (mg/L)	0.002	Once per Event	Per Section 3.6.3
Nickel (mg/L)	0.1	Once per Event	Per Section 3.6.3
Nitrate-Nitrite (mg/L)	10	Once per Event	Per Section 3.6.3
Total Nitrogen ²	10	Once per Event	Per Section 3.6.3
Selenium (dissolved) (mg/L)	0.05	Once per Event	Per Section 3.6.3
Thallium (mg/L)	0.002	Once per Event	Per Section 3.6.3
Total Dissolved Solids (mg/L) (TDS)	NE ⁶	Once per Event	Per Section 3.6.3
Total Trihalomethanes (mg/L)	0.1	Once per Event	Per Section 3.6.3
1 Metals shall be analyzed for total recoverable metals unless otherwise noted as dissolved. 2 Total nitrogen includes nitrate-N, nitrite and TKN-N. 3 Radionuclide samples are collected in accordance with NRC requirements and locations may differ slightly from those Specified in Table 5.3-1 of this permit located above. 4 Cation/Anion Balance shall be performed for the purpose of allowing geochemical comparisons between fluids that may enter the vadose zone from leakage through the secondary liner and groundwater quality. A Cation/Anion Balance consists of analysis for a minimum of the following constituents: aluminum, calcium, copper, magnesium, manganese, sodium, potassium, iron, zinc (cations) and alkalinity, sulfate, chloride, fluoride, nitrate, bicarbonate, and carbonate (anions). 5 DL = Discharge Limit 6 NE = Monitor Only. Report Results in SMRFs without comparison to DL.			

6.0 REFERENCES AND PERTINENT INFORMATION

The terms and conditions set forth in this permit have been developed based upon the information contained in the following, which are on file with the Department:

- 1 APP Application dated November 30, 2007.
- 2 Public Notice, dated _____.
- 3 Public Hearing, dated _____.
- 4 Responsiveness Summary, dated _____.

DRAFT FOR REVIEW AND DISCUSSION PURPOSES ONLY**7.0 NOTIFICATION PROVISIONS****7.1 Annual Registration Fees**

The permittee is notified of the obligation to pay an Annual Registration Fee to ADEQ. The Annual Registration Fee is based upon the amount of daily influent or discharge of pollutants in gallons per day as established by A.R.S. § 49-242.

7.2 Duty to Comply [A.R.S. §§ 49-221 through 49-263]

The permittee is notified of the obligation to comply with all conditions of this permit and all applicable provisions of Title 49, Chapter 2, Articles 1, 2 and 3 of the Arizona Revised Statutes, Title 18, Chapter 9, Articles 1 through 4, and Title 18, Chapter 11, Article 4 of the Arizona Administrative Code. Any permit non-compliance constitutes a violation and is grounds for an enforcement action pursuant to Title 49, Chapter 2, Article 4 or permit amendment, suspension, or revocation.

7.3 Duty to Provide Information [A.R.S. §§ 49-243(K)(2) and 49-243(K)(8)]

The permittee shall furnish to the Director, or an authorized representative, within a time specified, any information which the Director may request to determine whether cause exists for amending or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

7.4 Compliance with Aquifer Water Quality Standards [A.R.S. §§ 49-243(B)(2) and 49-243(B)(3)]

The permittee shall not cause or contribute to a violation of an aquifer water quality standard at the applicable point of compliance for the facility. Where, at the time of issuance of the permit, an aquifer already exceeds an aquifer water quality standard for a pollutant, the permittee shall not discharge that pollutant so as to further degrade, at the applicable point of compliance for the facility, the water quality of any aquifer for that pollutant.

7.5 Technical and Financial Capability

[A.R.S. §§ 49-243(K)(8) and 49-243(N) and A.A.C. R18-9-A202(B) and R18-9-A203(E) and (F)]

The permittee shall have and maintain the technical and financial capability necessary to fully carry out the terms and conditions of this permit. Any bond, insurance policy, trust fund, or other financial assurance mechanism provided as a demonstration of financial capability in the permit application, pursuant to A.A.C. R18-9-A203(D), shall be in effect prior to any discharge authorized by this permit and shall remain in effect for the duration of the permit.

7.6 Reporting of Bankruptcy or Environmental Enforcement [A.A.C. R18-9-A207(C)]

The permittee shall notify the Director within five days after the occurrence of any one of the following:

1. The filing of bankruptcy by the permittee.
2. The entry of any order or judgment not issued by the Director against the permittee for the enforcement of any environmental protection statute or rule.

7.7 Monitoring and Records [A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A206]

The permittee shall conduct any monitoring activity necessary to assure compliance with this permit, with the applicable water quality standards established pursuant to A.R.S. §§ 49-221 and 49-223 and §§ 49-241 through 49-252.

7.8 Inspection and Entry [A.R.S. §§ 41-1009, 49-203(B) and 49-243(K)(8)]

In accordance with A.R.S. §§ 41-1009 and 49-203(B), the permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to enter and inspect the facility as reasonably necessary to ensure compliance with Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes, and Title 18, Chapter 9, Articles 1 through 4 of the Arizona Administrative Code and the terms and conditions of this permit.

DRAFT FOR REVIEW AND DISCUSSION PURPOSES ONLY

7.9 Duty to Modify [A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A211]

The permittee shall apply for and receive a written amendment before deviating from any of the designs or operational practices specified by this permit.

7.10 Permit Action: Amendment, Transfer, Suspension & Revocation

[A.R.S. §§ 49-201, 49-241 through 251, A.A.C. R18-9-A211, R18-9-A212 and R18-9-A213]

This permit may be amended, transferred, renewed, or revoked for cause, under the rules of the Department.

The permittee shall notify the Groundwater Section in writing within 15 days after any change in the owner or operator of the facility. The notification shall state the permit number, the name of the facility, the date of property transfer, and the name, address, and phone number where the new owner or operator can be reached. The operator shall advise the new owner or operators of the terms of this permit and the need for permit transfer in accordance with the rules.

8.0 ADDITIONAL PERMIT CONDITIONS

8.1 Other Information [A.R.S. § 49-243(K)(8)]

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, the permittee shall promptly submit the correct facts or information.

8.2 Severability

[A.R.S. §§ 49-201, 49-241 through 251, A.A.C. R18-9-A211, R18-9-A212 and R18-9-A213]

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby. The filing of a request by the permittee for a permit action does not stay or suspend the effectiveness of any existing permit condition.

8.3 Permit Transfer

This permit may not be transferred to any other person except after notice to and approval of the transfer by the Department. No transfer shall be approved until the applicant complies with all transfer requirements as specified in A.A.C. R18-9-A212(B) and (C).